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OCTOBER

1950



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AMERICAN

# Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

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## CONTENTS

### ARTICLES

DEALS FOR FOOTBALL FILMING — <i>By Frederick Foster</i>	347
CHANGING A TEAM: CAMERA FOR POSTERITY'S WIFE — <i>By Leigh Allen</i>	343
'ACTORS' LOCAL' SHOOTING POINTS PROBLEMS FOR CINEMATOGRAPHERS — <i>By Arthur Evans</i>	345
AMBIGUOUS OVERHAUL — <i>By Joseph Rostenberg, A.S.C.</i>	346
NEW TECHNIQUE SYSTEM ANSWERS	334

### AMATEUR CINEMATOGRAPHY

MAKING AT THE MOVIES — <i>By Charles L. Andrews</i>	349
SELECTING SOUNDS FOR YOUR S.O.F. PRODUCTION — <i>By Charles Loring</i>	350

### FEATURES

HOLLYWOOD BULLETIN BOARD	353
CURRENT ASSIGNMENTS OF A.S.C. MEMBERS	344

### ON THE COVER

LANA TURNER and Ewan Pina (far left) are the stars of this back stage scene from Metro-Goldwyn-Mayer's "Mr. Imperium," Technicolor musical which introduces Pina to the motion picture public. Under ladder, director Don Hartmann can be glimpsed, with director of photography George Folsey, A.S.C., to Miss Turner's left. Assistant director Jack Ottensmoe is in background in Pina's left. Note the use of foliage to cast dramatic shadows into the scene.

— Photo by Eric Carpenter

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## AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 1, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

The Society meets regularly once a month at its clubhouse at 1978 North Orange Drive, in the heart of Hollywood. On November 2, 1950, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 45 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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# Hollywood Bulletin Board



Harry Jackson A.S.C.

Harry Jackson, A.S.C., won the American Society of Cinematographers' "Picture Of The Month" award for July for his photography of Metro-Goldwyn-Mayer's Technicolor musical, "Three Little Words." Jackson was borrowed from 20th Century-Fox to direct photography of this picture, the first time he has worked away from his home lot in a long time. Jackson has photographed such recent 20th Century-Fox hits as "A Ticket To Tomahawk," and "American Guerrillas In The Philippines," and is currently directing the Technicolor photography on "Wild Winds" for the same studio. Jackson becomes the fourth T-C-F cinematographer to receive an ASC award this year.

Millions of Radio Listeners, the evening of September 23rd, heard explained for perhaps the first time the meaning of the initials, "A.S.C.," which regularly appear after the name of the director of photography on credit titles of motion pictures, indicating that he is a member of the American Society of Cinematographers.

Occasion was the salute to members of the Society, their wives and guests by the radio program "Hawaii Calls," during progress of the Society's Annual Ladies Night Dinner And Dance. Host for the party was Honolulu, with many guests dressed in gay Hawaiian costumes, feasting on Hawaiian food and dancing to Hawaiian music. The radio program, originating in Honolulu, was beamed

to the mainland by shortwave, then rebroadcast throughout the U.S. by the Don Lee Network. Guests were enabled to hear a report of the broadcast later the same evening through arrangements by Sam Jackson, Sr., A.S.C., who secured and played an original transcription of the program.

A series of aptitude tests in camera, lighting, sound, editing, writing and directing are available to the public as the basis for awarding scholarships totaling \$25,000, by the New Institute for Film and Television, New York City. Scholarships will be given for the Day School to the best twelve contestants with the highest ratings. Tests may be obtained by writing to the Scholarship Chairman at the School's studios, 20 Flatbush Avenue, Brooklyn 17, New York.

Departing from the traditional format of its semiannual convention programs, the Society of Motion Picture and Television Engineers will introduce several innovations in a streamlined tentative schedule for the Society's 68th Semi-annual Convention, to be held at the Lake Placid Club, Lake Placid, N. Y., October 16 to 20 inclusive.

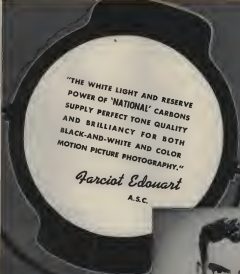
A comprehensive and richly varied selection of the latest technical advances  
(Continued on Page 165)

## VINCENT FARRAR

Members of the American Society of Cinematographers were saddened by the passing September 25 of Vincent Farrar, 30, veteran director of photography since inception of sound films. Farrar died at the Motion Picture Country Home following a long illness. He leaves his widow Dale.

Vincent Farrar had been a member of the A.S.C. since October, 1945. During World War II he was in charge of photography at the U. S. Navy Photo Services Dept. in Hollywood, and also served three years active duty in the U. S. Navy Bureau of Aeronautics as photographer. Earlier he had been a newspaper cameraman for Fox and also Pathé News and at one time was in charge of photography for the most recent studios.

He directed photography on feature films for Monogram, Samuel Goldwyn, Alexander Korda and David Selznick. Recently landing at the Columbia Pictures' lot where he had been one of that studio's top directors of photography for several years at the time of his death.



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Editor David L. Quaid, one of the nation's leading free lance cameramen, sets up his Maurer 16 mm. camera to shoot a scene for an industrial film (see color 1)

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# Dolly For Filming Football

Giant elastic rubber ropes power dolly used to photograph closeup action of football plays for Columbia's "The Hero."

By FREDERICK FOSTER

WHEN A SCRIPT calls for scenes of a football game, one of the major problems encountered in photographing players at action on the field is that it isn't possible for the camera to work close enough nor to be sufficiently mobile to follow spontaneous and often unpredictable action during a real game.

In an effort to get more realism in such shots, some companies have mounted several cameras high in the grandstand and used telephoto lenses of extraordinary length, the same as mounted cameras. While more realistic scenes were thus obtained, they were too flat to match footage with greater contrast shot at closer ranges with lenses of shorter focal length. This posed an added problem when it came to editing the film that could not be overcome by either the laboratory or film cutter.

Better results have been secured more recently with the aid of a special camera dolly propelled on the field through the use of large elastic rubber ropes. Lee Garmes, A.S.C., was the first to use the dolly in shooting scenes for Columbia Pictures' "The Hero." The dolly, pictured above, permits a camera operator to stand upright and film the action with a Cunningham combat camera. A metal framework provides support for the operator. Propulsion of the dolly by the strong elastic ropes follows the same principle used in getting sailplanes and gliders into the air: the ropes are attached to front of the dolly, then



DIRECTOR of photographs, Lee Garmes (wearing helmet) shows propulsion of dolly and camera before dolly is released for action shot. Operator R. B. Carver, standing inside supporting framework, will shoot and adjust with hand-held Cunningham battery-driven camera

stretched taut while the dolly is anchored. Once the dolly is released, the elastic ropes pull it forward at speed about equal that of a player running free on the field. Just why this method of powering the dolly was used will be explained in more detail later.

Origin of the dolly followed Columbia Pictures' decision to get more realistic shots of gridiron action in "The Hero"

(Continued on Page 304)



OPERATOR Carver shoots action on playing field from starting dolly as it is pulled by elastic shock ropes. Quick running players, control speed of dolly, brake speed in case of mishap



FRAME ENLARGEMENT of typical action shot secured by shooting with hand held camera from moving dolly on playing field. Dolly, moving with same speed as players, keeps camera at close range



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BELL & HOWELL FILM 75 RA



BELL & HOWELL FILM 70 R



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BOLEX H16

## Choosing A 16mm. Camera For Profession.

An illustrated digest of the eleven cameras in popular use today in the production of 16mm. industrial, educational and television films.



MAJESTIC PROFESSIONAL 16



CINE KODAK SPECIAL II



ARRICON CINE-VOICE

**R**ECENTLY a Hollywood motion picture trade paper noted that more than 250 sixteen millimeter film producers were now engaged in production of films for television. Actually, if all the little individual video film producers are taken into account, the number is probably twice this figure—with more entering the field daily. Then consider the scores of industrial, educational and governmental film producers in the country and it adds up to a sizeable number of sixteen millimeter cameras being sold each week.

Today, according to a recent survey by *American Cinematographer*, there are eleven different sixteen cameras being used regularly in the production of sixteen commercial films. Choice of a camera for this work usually depends upon the type of film to be produced—whether in a studio or in the field—and the budget available for purchase of camera or camera. Cost, however, is not always the prime factor in obtaining the best photographs. Other factors such as lenses and skill of the cameraman invariably affect the final result. Marketable sixteen films, it has been noted, are being photographed with cameras costing less than \$200,000 exclusive of lenses.

The larger cameras, of course, have refinements not found in the smaller, more compact cameras and are more adaptable for studio production shooting where schedules and practice more nearly approximate those of feature film studios.

For readers pondering the question: "What sixteen camera shall I buy?"

By LEIGH ALLEN

*American Cinematographer* presents here brief and comparative descriptions of the eleven cameras mentioned above. The order in which the cameras are illustrated on the opposite page in no way implies preference nor superiority over the others, and the descriptions that follow are in alphabetical order as a matter of convenience. Prospective camera purchasers are invited to write the manufacturers for catalogues and further details.

**Auricon-Pro Sound Camera**—The basic model CM-71 is a single system sound-on-film recording camera that records the photographic image and the sound track on the same film simultaneously. A built-in galvanometer records a track of variable area. Film capacity is 200 feet affording use of either standard daylight loading spools of film up to 200 feet in length or detachable Auricon 200 ft. film magazines. Camera is driven by a built-in 215-volt, 60 cycle AC current synchronous motor. A 50 cycle, AC motor is also available. A 175" shutter gives an exposure interval of 1/50 sec.

Features of the camera, which is sound-proofed and therefore requires no external blimp, include: Sport frame viewfinder, two 200 ft. film magazines; set of lens shades and mounting rods; 50 ft measuring tape; zone-recording amplifier complete with tubes, batteries, headphones, high fidelity mike and all connecting cables, and single lens mounting.

Available as extra equipment is the Auricon Auto-Parallax View-Range Finder, which replaces the sport frame finder, and 3-lens turret. For the amplifier: portable power supply with generator driven by 12-volt storage battery,

which generates 115-volt, 60 cycle AC current.

Net weight of camera is 51 pounds, finished in gun metal crackle enamel. Price, less lens, is approximately \$1250. Without lens, amplifier and external sound accessories, price is about \$995.50. Available also is a silent film model, without magazines or recording galvanometer (which may be added later) at approximately \$644.50.

A special model "Auricon 1200," especially designed for long interval recording up to 1200 feet of film, sound is available for \$2360.00. Manufacturer is Bende-Bach, Inc., 7377 Beverly Blvd., Los Angeles 36, Calif.

**Auricon "Cine-Voice" Sound Camera**—A complete, low-priced single-system sound-on-film recording camera designed for the semi-professional and advanced amateur. It also has found wide use among many professionals. Weighing but 12½ pounds, the "Cine Voice" is patterned after its larger "Auricon-Pro" brother, with a built-in recording galvanometer producing a variable area sound track. Film capacity is 100 feet—taking standard 50- and 100-foot daylight loading rolls of single perforated film.

The basic model provides for a single "C" mount lens, but a 3-lens rotary turret may be installed for \$85.50, if ordered at time of purchase. The built-in motor is 110-volt, 60 cycle AC.

Other features include: footage indicator; viewfinder which covers all lens sizes from 15mm up, and 15mm, 17mm, 1-inch and 2-inch lens noises. Additional mirrors for other lenses may be had at small additional cost. Finder has parallax adjustment accurate down to 4 feet.

Complete outfit includes: camera, as described; amplifier, with built-in control panel; microphone; microphone desk stand; necessary connecting cables and fabricated covered carrying case. Price without lens is \$695.00. Same manufacturer as the Auricon-Pro Sound Camera.

**Bell & Howell Films 70 DA**—The Films is one of the pioneer sixteen cameras and the 70 DA is the basic model which, with the addition of certain accessories, becomes the 70 H or the Specialist models described in subsequent paragraphs.

The 70 DA is spring-motor driven. One winding will expose 22 feet of film. The camera has seven film speeds: R, 12, 16, 24, 32, 48 and 64 fps. Each speed is accurately maintained throughout the run. The turret head, which is standard equipment, accommodates three lenses, permits instantaneous change from one lens to another. Spot-on-type finder gives brilliant upright image. Built-in

(Continued on Next Page)

Work...



HORD PROFESSIONAL



PATHE SUPER 16

minies provide for making finder for lens in use.

Critical focus permits operator to look through taking lens to focus on object or scene. A 204" revolving disc shutter gives an exposure of 1/27 second at 16 f.p.s. in the film gate, wide motion springs register the film at the aperture, eliminating need for surface motion springs. Footage dial accurately registers exposed film footage. Hand crank permits winding back film for double exposures, track effects, etc. Film capacity is 100 feet, taking either 50- or 100-foot daylight loading spools of film. The die-cast aluminum frame is finished in bronze crackle-baked enamel.

Price of camera equipped with 1" 1/4 Super Cinema lens in focusing mount and coated is \$129.70; with 1" 1/4 Taylor-Taylor-Hobson Konic in focusing mount, coated, is \$150.55. Manufacturer is Bell & Howell Company, 7100 McCormack Road, Chicago 45, Ill.

**Bell & Howell Filmo 70 H** — Essentially the same basic camera as the 70 DA except for the following additional features and equipment: Lens furnished as standard equipment is the 1" 1/4 Super Cinema, coated, in focusing mount; a positive transfer viewfinder replaces the swingless finder of the 70 DA, which has three positive finder objectives matching any three lenses on the camera turret. In addition, there is an upper rewind knob for use when considerable footage is to be wound back in the camera for long run double-exposures; a shutter stabilizer which keeps shutter operating at constant speed when synchronous motor is used to drive external film magazine; Veeber footage counter which accurately registers 1 to 100 feet of exposed film.

The following may be added to the camera to make it adaptable for more specific professional uses: External film magazine, either 200- or 400-foot capacity. (Use of external magazines requires adding electric motor drive); electric motor, either 12, or 24 volt DC, affording speeds from 8 to 64 f.p.s., may be had at nominal cost. Also available are motors for 115 volt AC-DC affording speeds of 8 to 64 f.p.s., a 250 volt, 60 cycle AC motor for 24 f.p.s. speed.

A full upright-image viewfinder is also available. Standard etched field matches 25mm lens changes to 15mm lens field with addition of wide angle objective. Other fields are obtained by insertion of transparent masks. Focusing and parallax correction are fast and accurate.

Price of camera with 1/4 lens is \$649.50.

**Bell & Howell Filmo Spectral** — This is the basic Filmo 70 DA "professionalized" with all the latest type features necessary for professional work. These

include a shift-over base for focusing directly through taking lens in taking position; 4-lens rotary turret equipped with four lenses, full upright image viewfinder which affords exceptionally brilliant field, erect and correct in its right and left with fast, accurate adjustment for parallax. (Finder tilts forward to clear camera door when threading film.)

Seven film speeds are provided — from 8 to 64 f.p.s., also a visible footage counter accurately registers each foot of film exposed from 1 to 100. A single frame device may be added where camera is to be used for animation, etc. Two 400-foot external film magazines are provided; a heavy duty tripod with case, lens cover and boot, a combination sunshade and matte box and carrying case for camera and accessories.

Three types of motive power are provided: spring, hand crank, and motor. Standard equipment is a 115-volt AC-DC electric motor. Optional motors available include 12- or 24-volt DC universal motors capable of driving camera at all of its seven speeds. For sound work, two synchronous motors are available: 115-volts 50 or 60 cycles, AC, or 220 volts, 50 cycles, AC. All motors are interchangeable and may be regulated and removed in a matter of seconds.

**Bell H-16** — The Sme made Paillard-Bolex H-16 camera is fast growing in popularity with professional film makers, both as a production and secondary camera. Taking either 50- or 100-foot daylight loading spools of film, it provides quick automatic threading which safeguards against loss of film by backing or loop loss. The spring motor drive provides variable speeds of 8, 16, 24 or 32, and 64 f.p.s. There is also a single frame release which delivers a measured 1/25 second exposure.

Frame counter mechanism is gear driven. Two frame counters are visible: one adds frames in forward motion and subtracts in reverse motion; lower dial subtracts by adding forward motion or subtracting in reverse motion. In addition to frame counter both visual and audible footage counters are provided.

Hand crank permits manual film transport forward or in reverse, independently of spring motor. When disengaged from motor, any desired footage up to 100 feet of film can be rewound for making double-exposures, lap-dissolves and other track effects.

Other features include: eye level focusing tube affording direct focusing through taking lens; hand crank for single-frame exposures; the new, exclusive Ocamerometer viewfinder which provides automatic field of view for eight lenses ranging from 16mm to 6-inch telephoto with full

parallax correction; three-lens rotary turret which takes "C" mount lenses, and rotary focal-plane type shutter. Camera is adaptable for sound film and constant speed electric motor drive. Price, without lenses, is \$318.00. Distributed in America by Paillard Products, Inc., 265 Madison Ave., New York 16, N. Y.

**Cine-Kodak Special II** — The "Cine-Special" long has been a favorite of industrial photographers, engineers, doctors, scientists, lecturers, newsmen and television cameramen. The "Special II" is now available with a re-designed turret and other improvements. The basic camera fitted with either a 100- or 200-foot interchangeable film chamber and either an 8/4 or 1/4 Elmar 25mm. lens will enable the photographer to achieve fades, dissolves, mask shots, double and multiple exposures, montages and animation.

The two-lens turret provides for offset of lenses so that both a wide angle lens and a telephoto lens may be mounted together without producing visual interference. A dual finder system provides a reflex finder for exact framing and focusing through the lens, and an eye-level finder with clip on matte for various lenses and parallax correction adjustment.

Spring motor drive, when fully wound, will provide a continuous exposure of 38 feet of film. Variable speeds from 8 to 64 f.p.s. are provided with full governor control and cushion braking for high speeds. Variable shutter is manually operated to provide 1/4, 1/2, or full open, or gradual opening or closing for making fades and dissolves. A separate hand crank and special shafts provide for one- and eight-frame-per-turret manual operation of camera, and there is a single frame release, footage meters and frame counter. A set of masks, which is part of the equipment, slip into a slot between lens and film for a variety of special effects.

Extra accessories include: reflex finder view magnifier, making it possible to view scene right side up through taking lens from back of camera; optical finder with correction for parallax down to two feet, tripod carrying case, electric motor drive, blimp, and time lapse outfit.

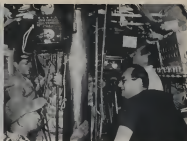
The basic camera with Cine Elmar 25mm. 1/4 lens and 100 foot film chamber is \$935.00; with 200 foot film chamber, price is \$1,125.00. Manufacturer is Eastman Kodak Company, Rochester 4, New York.

**Mauzer Professional 14** — The J. A. Mauzer Company asserts with pardonable pride, that this camera was specifically designed to produce steady, sharp,

(Continued on Page 232)



**SUBMARINE** scenes for Columbia's "The Flying Missile" were photographed on a U. S. Navy submarine. Here camera is set up for shot of cabin on sinking vessel.



**TYPICAL** of the many "back-to-the-wall" operations encountered by director of photography William Snyder in filming "The Flying Missile," is shown in this view of submarine interior. Snyder is wedged in behind the camera.

**T**HE TREND in Hollywood for shooting more and more pictures on actual locations instead of in the studio has created new problems for directors of photography. Having grown accustomed to the many conveniences of the studio—sound stage, location shooting poses problems of lighting as well as use of the camera. This is not to say that the average director of photography is hard put to cope with these problems. On the contrary, these men by virtue of their long years of experience, are well able to adapt themselves to any situation.

But the trend does mean that for a long time in the foreseeable future, they will be doing a great deal of shooting

## 'Actual Locale' Shooting Poses Problems For Cinematographers

**Trend for filming more productions on actual locations forcing change of pace for directors of photography. Here's how William Snyder, A.S.C., met the challenge in photographing Columbia Pictures' "The Flying Missile."**

By **ARTHUR ROWAN**

without the immediate conveniences of the sound stage and studio lot. They will encounter photographic problems that heretofore cropped up only occasionally. Where last year, shots inside a Pullman car were made on the sound stage on a full scale mock-up set of a Pullman, today the tendency runs often than not is to take camera and crew down to the railroad yards and shoot the scenes there. All this is an effort to hold down rising production costs.

A case in point is the photographic assignment recently completed for Columbia Pictures by William Snyder, A.S.C., which called for shooting 90 percent of the picture on off-the-lot locations including a Navy submarine. It was the last named that posed a real photographic challenge. But the studio felt no qualms about it. They had selected Snyder, on the basis of his fine camera work on such Columbia pictures as "The Petty Girl," "Jolson Sings Again," "Return of October," and "The Loves of

Carmen," to photograph "The Flying Missile"—a story about the development of guided missiles in submarine warfare.

One look down the hatch of a submarine would discourage even the most reckless cinematographer from attempting photography there. Subs are notably lacking in elbow room. How anyone could possibly mount a Mitchell camera below decks, much less light the sub for cinematography was a question that would swamp a less resourceful cameraman. But Snyder assured producer Jerry Bernier that, given his regular Columbia crew of camera assistants and grips, he could successfully shoot both the interiors and exteriors called for in the script. Snyder, whose forte is Technicolor photography, and a man accustomed to shooting with illumination of around two foot candles, undertook this challenging black-and-white assignment which ultimately saw him shooting with light levels

(Continued on Page 315)



**SKILL** of grips in erecting scaffolds for shots such as this on Navy submarine interior, amazed Navy officers and crew.



BRITISH lighting and grip equipment is the usual of ours, says Joseph Ruttenberg, who directed the photography on M-G-M's "The Miniver Story" at the Elstree studios in London. Ruttenberg found British technicians cooperative and affable.



DISCUSSING an director's layout for a scene in "The Miniver Story" are star Greer Garson, director of photography Joseph Ruttenberg (seated center), director M. C. Feltus (right) and art director, Alfred Junger who designed the "Miniver" sets.

## Assignment Overseas

Labor and technical problems diminishing for Hollywood directors of photography shooting in foreign studios.

By JOSEPH RUTTENBERG, A.S.C.

NEVER BEFORE have so many Hollywood productions been photographed abroad. For the director of photography, this has meant—aside from visits to new and interesting foreign lands—working with strange equipment and technicians and putting up with certain labor restrictions and foibles. In most instances, the visiting cinematographer has fared very successfully. I have nothing but good things to say about associates with whom I worked in England months ago in filming "The Miniver Story."

The premiere showing of this picture in New York this month is an occasion for reminiscing on my pleasant association with the many fine British technicians who aided in filming this production at Metro-Goldwyn-Mayer's Elstree studios in London. It also afforded opportunity to reveal what other directors of photography may encounter on overseas assignments. Today, with the growing trend of off-the-lot production, many cinematographers may expect to receive assignments to photograph a production in Britain, France or Rome—the three most active centers of overseas production at this time. In such event, the thought that naturally comes to mind is, "What are the conditions to be met there

with regard to technicians and equipment?"

A London assignment, of course, affords the greatest promise, although conditions in both France and Italy are fast improving. The London studio situation is more comparable to ours here in America in that equipment and techniques pretty nearly approximate those in Hollywood. The big hurdle, and one that must be settled before the director of photography lands in England, is that country's rigid restrictions against the use of foreign motion picture technicians and labor. This is understandable, in view of the English industry's economic setbacks during the past year which have greatly limited the amount of work available for the large number of British motion picture technicians.

We had to meet this problem before starting to shoot "The Miniver Story." It required considerable negotiation in advance, but fortunately the British technicians saw a way to a solution. It simply narrowed down to this: Greer Garson refused to make the picture in England unless I could direct the photography. Making the picture in England meant that more than two actors and technical help would receive steady pay

checks for several months. If the picture was not made there, a lot of people would continue to remain on the unemployed list. So a compromise was reached whereby I could assume direction of the photography providing M-G-M employed a standby cinematographer.

When the picture started, there was the noticeable stiff formality of precariously adhering to the covenants of the technicians' union, but before we had concluded the first day's work, the technicians and I were getting along famously. These men are very eager to work with Hollywood cameramen in order to learn most of the advanced Hollywood techniques. As a result, there is a strong feeling for a mutual interchange of technicians on productions both here and

(Continued on Page 322)



BRITISH Society of Cinematographers' proxy Freddie Young welcomes Ruttenberg on the "Miniver" set, later sponsored his membership in the Society.

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# Amateur Cinematography SECTION



**MULTIPLE PLANES** emphasize action. Here the cameraman waited for the right day, hour and position of sun and clouds to gain the light and shadow that divided the scene into three planes.



**COMPOSING** with emphasis on depth calls for use of foreground objects properly placed in the composition to lead expanded attention to the picture. Here trees at left give picture a containing foreground.

**NOT ALL THE MONEY** you spend at the behest of your local movie theatre need be charged to "entertainment" in the family budget book. For if you attend the movies with the added object of *learning* about movie making techniques as well as to be entertained, you might very well credit at least half of your ticket costs to education.

All of the basic techniques to be observed on theatre screens have a similar application in the making of 8mm. and 16mm. movies. Of course, you can hardly afford the large casts of the professionals, light your sets with sun rays, nor even use professional actors; but on the essential premise of movie making: "*How can I make the most of what I have to photograph?*" you and the professional cinematographer begin on an equal foot-

## Majoring At The Movies

If you have a yearn to learn, your local movie theatre can become your graduate school of cinematography.

By CHARLES L. ANDERSON

ing. Beyond this point, it's pretty much a matter of individual initiative and resourcefulness plus knowledge of movie making. Much of this knowledge is to be gained through careful study and observation from the comfort of your theatre seat.

There are four techniques of professional film production that demand more of the attention of serious amateur film

makers hoping ultimately to make cinematography a career. They are observable on your theatre screen and include (1) composing scenes in depth to give them a stronger sense of reality; (2) buying amateur films on themes used for theatrical short subjects; (3) the use of long shots to punctuate a film; and (4) the practice of preceding main titles with

(Continued on Page 146)



**LONG SHOT**

A pleasing arrangement of long shot, closeup and medium shot that tells story of family group picking wildflowers. The 16mm stills are close.



**CLOSEUP**



**MEDIUM SHOT**

The CU gives an intimate view of what the people are doing, and the ML puts back to show all three people together in the activity.



**HERE a 16mm amateur film is being photographed without sound, using a 16mm film sound camera. The sound, in form of narration, sound effects and music will be post-recorded and combined with film later.**



**TYPICAL setup of a commercial sound laboratory. Here tape recorder is at technician's right while in the sound booth, narrator speaks into microphone as he watches film unroll on the screen (left shown).**

## Selecting Sound For Your First 16mm. S.O.F. Production

Three types of sound recording systems are available: single and double system film and magnetic tape. If budget prohibits buying your own recording equipment, you may either rent it or employ a sound studio to record sound for you.

By CHARLES LORING

**M**ANY OF TODAY'S products of 16mm. commercial and television films once were ambitious 16mm. movie makers who pressed their advantage of ability to a successful conclusion in the commercial field. Out of these same ranks there are to come—indeed are coming—many more capable 16mm. film makers eager to cash in on their movie making ability in this rapidly growing field. Often a 16mm. cine camerist is approached, as a result of demonstrated ability, to make a 16mm. promotional film for some civic organization or perhaps to undertake a modest advertising film for some local business house, and thus another 16mm. movie maker becomes a potential commercial film producer—providing he can solve the problem of sound.

For him there is the choice of three steps: purchase sound recording camera or double-system recording equipment—a decidedly expensive venture,

rent a sound camera and recorder on a daily basis as needed; or engage a qualified sound recording studio or laboratory to add sound to the film for him.

To a considerable degree, the embryo 16mm. film producer's selection of equipment and method of sound recording will depend upon whether he will be recording dialogue, requiring intricate synchronization, or narration which is most often post-recorded. Narrated sound is relatively easy to negotiate, both in terms of technique and equipment, but direct dialogue, or "sync" sound, carries with it a peculiar set of problems all its own which are somewhat more exacting.

The decision of whether to buy or rent sound equipment depends upon such factors as the amount of filming it is to be used for, the size of the budget, and whether or not purchased equipment can readily be resold at not too great a

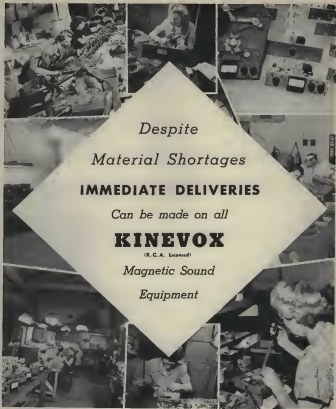
loss, should this ever become necessary.

Generally speaking, if there is a great deal of sound footage to be shot or if such production is a continuing phase of your activity, it is more economical to have your own sound equipment, since over a period of time rental fees might exceed or at least equal the cost of that equipment. But if sound filming is to be only an occasional undertaking, or if the budget will not allow the purchase of good equipment, it is better to rent. In most of the larger cities today, such as New York, Washington, Detroit, Chi-

(Continued on Page 158)



**THE AURICON single-system 16mm. sound camera of wide popularity found much is provided in the camera, with the cameraman usually monitoring the sound with aid of headset and amplifier and mixing panel on floor.**



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## CHOOSING A 16MM. CAMERA

(Continued from Page 246)

accurately composed pictures on 16mm. film, that its standard of accuracy is 2½ times that of 35mm. cameras, and that it was especially designed for the professional 16mm. cameraman. It is today one of the prime favorites in the professional arena, field.

It is one of the few studio-type cameras offering the same technical features which are found in 35mm. cameras used in feature film production. Some of the important features of the Moaver camera include: intermittent movement and gate designed to insure perfect registration, regardless of film performance accuracy; one of the better erect-image viewfinders to be found on 16mm. cameras, affording an image 2½" x 3", with quick masking and absence of ghost; a 2½" dissolving shutter affording automatic fades and lap-dissolves or change of shutter opening to accommodate fading light; a motor drive applied directly to the intermittent movement through the one-frame-per-turn shaft; a 3-lens turret that takes standard "C" mount lenses; gear-driven film magazines of 400-foot capacity, which take daylight loading film on cores or daylight loading spools, and a quick action sunshade and sectional filter holder.

Price of camera as described, with 60 cycle 115-volt synchronous motor, 8-frame hand crank, power cable and carrying case is \$3,650.00. A wide range of accessory equipment is also available. Manufacturer is J. A. Moaver, Inc., 1701 33rd Street, Long Island City 1, New York.

**Mitchell 16mm. Professional.**—The design of this camera is result of the vast store of knowledge acquired through many years of manufacturing the famed Mitchell 35mm. camera, and incorporates features which heretofore have been found exclusively on 35mm. Mitchell. Among the most important are the "rack over" mechanism which permits of focusing through the taking lens without detaching the lens position; the erect image focusing telescope built in the camera door, which provides five and ten power magnification; the specially designed Mitchell movement, which permits high speed as well as normal speed work; a built-in hand dangle incorporating a graduated segment and miniature shutter; 400 foot film magazines with frictionless lift trap; built-in Vender footage counter and single frame counter which are always visible to the operator, and the 4-lens rotary turret with positive lock and trigger release.

Four types of motors are available: high speed, variable speed (wild), synchronous and interlocking. Motors are built integrally with the right-side camera door and are quickly interchangeable. Matte box and sunshade units mount directly on the camera, supported by two steel tubes, and are adjustable horizontally and vertically. Camera is equipped with a Mitchell erect image viewfinder with built-in adjustable matte. Finder is instantly focused and adjusted for parallax and provides for swinging out of way when camera door is to be opened for threading film.

Accessories include friction tilthead which is almost a duplicate of tilthead used with 35mm. Mitchell cameras, tripod of seasoned maple with joints of steel and large knurled knobs which provide a double, quick-operating clamp, and carrying case which accommodates both camera, one magazine and accessories. In addition, a new Mitchell blimp has been designed for this camera to meet all professional requirements for 16mm. sound cinematography.

Price and additional data may be had from Mitchell Camera Corp., 666 West Harvard St., Glendale 4, Calif.

**Nord Professional.**—One of the newer 16mm. professional cameras, the Nord is aimed to fit specialized photographic problems of commercial, television and educational film producers, according to the manufacturer. Salient feature is a rackover of exclusive design, housed entirely within the camera, which permits direct viewing and focusing through the taking lens. Optical system of finder covers all lenses and in addition provides for 100X magnification of center of field by touch of a lever.

Film threading is automatic. Positive registration of film in gate is assured by specially engineered film feeding finger. A 240" shutter provides an exposure of 1/48 second. Camera takes 300- and 400-foot daylight loading spools of film. Bed film spindles are equipped with chutes, permitting automatic takeup of film in either direction without changing belts.

Other features include: single frame shaft and crank; hand crank or electric motor drive; motor drive shaft equipped with safety release as protection against overload; footage and frame counter, 4-lens turret which takes "C" mount lenses, and sunshade and matte box with tubular mounting. The camera may be had with either ground glass finder or the exclusive Nord finder with knob-controlled parallax correction and focusing, which catches the fields of a wide range of lenses from 12.5mm. up.

Price of camera is under \$4,500.00. More complete specifications may be had

by writing the manufacturer, The Nord Company, 254 First Avenue North, Minneapolis 1, Minn.

**Pathé Super "16."**—This camera enjoys one of the most distinguished reputations in the world of motion pictures. Made in France, the Pathé Super "16" incorporates many features not often found in a compact camera of this size, the most outstanding perhaps being the full frame follow focus which permits viewing the scene directly through the taking lens as it is being photographed. Thus parallax is never a problem and focusing and composing scenes is made extremely simple. In addition, an optical type finder with adjustable eyepiece is also provided.

Other features include: a two-blade variable shutter with maximum opening of 170°, manually operated by lever at bottom front of camera; speeds up to 80 frames per second, including 8, 16, 24, 32, and 64 f.p.s. with accuracy insured by patented governor control; spring motor drive that gives a sustained run of 30 feet of film at one winding; built-in hand crank, providing also forward and reverse motion; three-lens turret that takes "C" mount lenses; automatic footage and frame counters, that add and subtract with extreme accuracy, and single frame device. Camera takes standard 100 foot daylight-loading spools of film.

Weighing less than five pounds, price of the Pathé Super "16" is \$395.00, less lens. American distributor is Director Products Corp., 521 Fifth Ave., New York 17, N. Y.

## ASSIGNMENT OVERSEAS

(Continued from Page 246)

abroad as a means of increasing the British technician's skills.

Actually, many of these men are as skilled and resourceful as most of our technicians. But there are a lot of men among them who are comparatively new in the industry and therefore haven't the experience of years that most of our technicians have. Another thing, they haven't developed the drive and systematic handling of equipment you find in Hollywood studios; as a result, average production schedules are much longer than in Hollywood. There, the number one cameraman (responsible to our director of photography) is called the "lighting cameraman." He lights the sets instead of the gaffer as in Hollywood. Certain technicians in Hollywood would blush to see me swinging a lamp in place or moving cables, gobos and hum dums, as I frequently did on this picture.

However, I think the men in our crew greatly benefited by their experiences in making this picture, for wherever possible I reorganized their working procedures to more nearly conform with those followed in Hollywood. As a result, we greatly speeded up production.

I think that the British motion picture industry and its technicians are presently in about the same stage of growth as we were a decade ago. Most of the men are "eager beavers"—extremely willing to learn and progress, and they get a lot of personal satisfaction from their work. In my opinion, the big men of Britain's future motion picture industry are now being developed.

As for equipment, the British have the best that can be found anywhere. The Elstree studios, for example, built a replica of the famous M-G-M "RD" camera crane, and added a few new features of their own. They have access to all the latest Mole-Richardson lighting equipment, which is obtainable from the M.R. London factory. Perhaps the greatest single factor that retards development of the technical side of the industry is the practice to use a different camera crew each time. In Hollywood, most directors of photography have the same camera and grip crews on every picture. In the British studios, the cinematographer invariably is given a new and strange crew of men, all of whom must acquaint themselves with the general working conditions and with the habits of the cinematographer to whom they are assigned. Working with Hollywood technicians, I think, has had tremendous influence on these men and the "team" idea seems to be catching on.

That the British cine technicians treated me royally is an understatement. While there, I was invited to participate in the 4th Royal Film Performance in the presence of the King and Queen. The occasion was the premiere screening of M-G-M's "Fanny Steptoe" (We changed the title to "That Fanny Woman" over here,) and was held at the Olden theatre in London. On this occasion, also, I was presented—as were other guests of honor—with a medallion commemorating the event. The inscription reads: "To Joseph Rattenberg, A.S.C., to commemorate your participation in the Fourth Royal Film Performance in the presence of Their Majesties the King and Queen."

Early in the production of "The Miniver Sequel," Freddie Young, president of the British Society of Cinematographers, and I became fast friends. Months later, I was guest of honor at one of the Society's monthly dinner meetings, at which time Mr. Young, addressing the group, said:

(Continued on Page 115)

# SLASH

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**New photographic process uses unfiltered incandescent  
light, shortens color filming schedules, cuts costs.**

A NEW Technicolor photographic system that makes it possible to film Technicolor pictures using an amount of light within the range of that now used for black-and-white photography



Dr. Herbert T. Kalman, President and General Manager of Technicolor, Inc., who has announced a better, more economical method of Technicolor photography

has been announced by Dr. Herbert T. Kalman, President and General Manager of Technicolor, Inc., and Technicolor Motion Picture Corporation.

Years of research by Technicolor have led to the discovery and development of this new system and now for the first time photography in color by Technicolor using low-level, unfiltered incandescent lighting has been realized. This improved Technicolor system employs an entirely new photographic device and a considerably modified procedure in the Technicolor laboratory.

The new Technicolor system has been tested by major studios with amazing results. It will broaden the scope of Technicolor photography by introducing improvements in convenience, cost and quality.

Because of the greatly reduced quantity of light required and the use of incandescent lighting units, photography of a larger number of scenes each day will be possible. This will lower the time required to produce a picture and reduce the cost.

Directors and cameramen will discover important new possibilities in using this

new lighting for Technicolor. The new system will also be welcomed by players and crews of Technicolor pictures as a comfort measure because the great reduction in the amount of light will be accompanied by a large reduction in the amount of heat.

With the new Technicolor system, photography of important actual scenes such as inside a cathedral or palace or of large interior scenes of important historical events can now be accomplished which before was much more difficult if not impossible.

One of the great problems for European and other foreign studios has been the lack of the type and quantity of lighting equipment which color cinematography has required. This is now no longer the case and a most difficult obstacle to Technicolor production in foreign studios has been overcome with this new system.

Technicolor's first process was additive — producing colors by adding colored lights — and required a special projector. This gave way to the subtractive method, in which the work of rendering motion pictures in color was done in the laboratory.

The early two-component (red and green) type of Technicolor picture fell short of complete color reality. In 1932 Technicolor brought out its three-component (red, green and blue) process, by which every shade of color may be faithfully reproduced.

Technicolor has recently appropriated the sum of nearly one-half million dollars to carry out the program for its new system. To make Technicolor photography — using unfiltered incandescent illumination with an amount of light required down in the range that is currently used for black and white cinematography — available to the industry to the full extent of the Technicolor capacity, requires building new Technicolor devices, new laboratory facilities and a sizable new building.

Although the program is under way, it is estimated that it will be from four to six months before the new system will be generally available so that it can be offered to the industry on a large scale. Tests and limited production photography, using the new system, will be possible in the meantime. Steps are being taken to make this new system available also to British and Continental studios

## ASSIGNMENT OVERSEAS

(Continued from Page 133)

"I think it a splendid idea that the creators of Motion Pictures, such as directors, writers, art directors, directors of photography, and others should be allowed to circulate freely and not be confined within the limits of their own countries.

"Of course, we realize that there is a labor problem to consider, and therefore it will quite often be necessary to work out some system of reciprocity. I am sure a lot of members of the B.S.C. would like the opportunity of shooting a film in Hollywood, and it would be very valuable experience for them, but I'm equally certain that it is good for Americans and those of other nationalities to come to work here, if only to make them appreciate their own country more. In our hearts we have the kindest feelings for directors of photography throughout the world."

Subsequent to this meeting, I was voted a member of the B.S.C., and in due time received a welcoming letter and my membership card.

I hope there will be other occasions for me to work with these fine men at the Elstree studios situated in the picturesque Barchin woods, just outside London. On my next assignment there, if there is to be one, I am sure I shall find things cinematic greatly changed—vastly improved—as a result of the terrific ambitions of these men and their eagerness to attain a position second to none in the world's motion picture industry. The fact that thus far they have been able to work at a more leisurely pace has enabled them to explore and develop more of the art of motion pictures of less of the technical. But perhaps that is a good thing. There is a greater need today to maintain activity on a high level—not to lose sight of it, devote mounting production problems and the increasing pressures of economies.

## 'ACTUAL LOCALE' SHOOTING

(Continued from Page 135)

ranging from 30 to less than 500 foot candles—more often in the lower range. In this, he was aided by Columbia's intensification process.

When light conditions didn't impose restrictions, the limiting quarters of the submarine hampered use of the camera. An instance was the sequence of shots called for within the conning tower of the submarine—a room approximately

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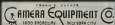
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six by ten feet in size and crisscrossed with instruments and gear. It was tough enough to get the Mitchell camera into the enclosure and mounted on a tripod. Snyder needed every inch of room he could get to make the series of shots with 29mm. lenses. Often the actors were little more than two or three feet away. Snyder was wedged in between the camera and the steel wall of the tower, directly opposite the actors, with scarcely enough room to look through the finder. Often it wasn't even possible, once a shot was lined up, to move out from behind the camera and allow the operator to take over. Director Henry Levin often hid to go topside while Snyder was lighting the shot—with only Snyder and his gaffer remaining below. When lighting and camera were made ready, the gaffer then went above and the actors took their places below the camera. This meant the actors frequently were called upon to adjust a lamp, when such was necessary, in the absence of the gaffer—something that never would be done on the sound stage but accepted in this instance because of circumstances.

In all, the company spent six days on the submarine. During this time the most exciting scenes for the picture were filmed. The story concerns the efforts of a submarine commander (Glenn Ford) to adapt the Navy's new guided missiles to submarine armament, and the development of a suitable platform for launching the missiles from decks of the sub. Launching of the first missile results in a premature explosion which paralyzes Ford and kills a brother officer. Eventually, through the commander's persistence, successful launching of the missiles is accomplished.

"During the six days," said Snyder, "we shot all over the submarine, inside and out. It was a tough picture physically, because of the numerous limitations. But the men in our crew constantly amazed the Navy men by their display of ingenuity and resourcefulness when it came to tackling tough problems, such as quickly erecting a scaffold for camera or lights, using a couple of "C" clamps and planks; or erecting "outrigger" platforms off the side of the sub to afford the necessary side shots of deck action that otherwise could only be made from the deck of another craft, which often was not available.

"Clouds, weather plagued us most of the time and because there were occasional moments of sunshine which we utilized whenever possible, there was the added problem of matching the lighting between shots made on overcast days and those made in sunshine. But there was no waiting for the weather. We shot right through it, for, surprising enough, the light intensity rarely seemed to diminish,

we lost only contrast when clouds and fog took over.

"Then there was the day when we were filming in an area in the ocean which, for story purposes, had to be clear of any objects—including sea gulls. For reasons known only to sea gulls, a flock of them appeared early that day and kept circling the boat with smooth rising and falling motions which at any other time would have been beautiful to behold. "If only they were from Central Casting. I thought, 'we could have the assistant director line them up and fly them past one at a time.' But it was the slapper of the Navy sub who saved the day for us. He radioed to shore for a meter launch. This was loaded with remnants of the box lunches served earlier to the crew and cast, then taken a mile away where the red box was dumped into the sea. The birds fell for the 'bait' and the scene was filmed without further interruption."

When shooting below deck, and for the fill lighters used on deck, Snyder utilized the ship's generator to supply power for his lamps. Lighting equipment consisted of the special economy light units—many of them developed especially at Columbia studios for their now famous "30 foot candles" lighting system—such lamps as parnits, baby breads, gimicks, photofloods, etc.

Besides the interiors filmed in the submarine, Snyder encountered some tough interior filming in an underground radar station, and in a communications center. In many cases, he utilized the practical lights plus a few photofloods, then masked the film for intensification. At the other extreme, there was the sequence of scenes made in the rooftop office of a Navy officer, which had windows on all four sides, so that no matter where the camera was placed, it was shooting into the harsh daylight out of doors. Snyder balanced this light with his interior lighting by placing ND filter gels over the glass in the windows.

Perhaps the most meticulous shots of all were those made in the radar room. Normally, this room is quite dark in order to facilitate reading the radar scope and the illuminated dials of the countless other instruments in the room. To preserve the natural appearance of this room, small practical lamps were placed in carefully selected spots to highlight or silhouette objects for contrast and separation, then the footage was lensfiltered to gain the extra speed necessary for satisfactory exposure.

The "low foot candle lighting plus intensification" technique was carried out in filming scenes in many other actual locations such as interiors in the Balboa Park Naval Hospital in San Diego, the Captain's office at Ft. Mags, the Naval



machine shop, and the inside storage hanger. "Figuring out setups and plotting camera angles was a constant problem," Snyder said, "because so many things had to be taken into consideration that we never have to concern with in the studio: windows with harsh daylight streaming through, narrow offices and rooms; and most aggravating—the lack of 'wild walls' that could be removed quickly to make way for the camera. Indeed, we had our 'backs to the wall' most of the time, both literally and figuratively."

"In the closing days of this assignment," Snyder continued, "we filmed the climactic scenes of the picture—the launching of a giant rocket from the deck of a submarine. For this we set up nine special cameras. We couldn't afford to miss any of the action, for rockets are costly and would make retakes prohibitive. This marked the first time that a guided missile had ever been photographed for a specific scene in a motion picture. In addition, for story purposes, the flight of the missile was also photographed by Chief Petty Officer Paul Potts, Navy aviation photographer, who filmed the missile from a jet plane streaking along beside it at a speed of more than 400 miles per hour."

Of inestimable assistance in the making of this picture was Rear Admiral T. M. Dykers, U.S.N., retired, who served as technical adviser. Admiral Dykers, new to movie making, quickly caught on to cinematic techniques and was invaluable in suggesting a line of action best suited to the viewpoint of the camera. Indeed, Snyder suggests that he may have become so imbued with picture making that he'll probably wind up on the staff of one of the studios, permanently.

For William Snyder, "The Flying Missile" was simply another of those challenging and provocative assignments which constantly come the way of Hollywood's top directors of photography. Here was a photographic job demanding ability—ability to visualize, improve and invent—despite known obstacles which were clearly shown in the planning of the picture. Snyder's camera crew functioned as smoothly as the giant motors which propel the sleek black subs on which they worked. Only once did anything arise to hamper this smooth working machine—thick, pea-soup fog. On this occasion Snyder suggested to producer Broadie it would be better to retreat to the studio and shoot what scenes were scheduled there. Broadie refused the studio they were casing ashore, adding, "Fog so heavy even the birds are walking."

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## SELECTING SOUND FOR 16 MILLIMETER

(Continued from Page 350)

cage, Kansas City, and Los Angeles, both 16mm and 35mm sound cameras and recorders are to be had on a rental basis. For a source of such equipment, the classified pages of your telephone directory should be your best reference. Also, in most large centers, it is possible to hire sound engineers with recording equipment who will record sound for your films, or laboratories where you may take your film for the addition of post-recorded sound in the form of narration, sound effects and music.

In present-day production, three types of direct sound recording set-ups are used: single-system film, double-system film, and double-system tape. Single-system refers to a technique in which both picture and sound are recorded in the camera directly on the same strip of film, properly spaced so that the film is ready for the sound projector immediately after processing. It is the fastest and most economical method of recording direct dialogue. Its chief drawback, however, is in editing, because of the 24 frame lag between picture and sound, and also in the fact that it is usually necessary to use emulsions which are fine for the picture rendition but not ideally suited to sound recording because of grain and other technical factors.

It is possible to use action in such a way that it can be edited satisfactorily in single-system recording, but the operation is a highly exacting and a trying one at best. As for the film problem, it is possible to use slower type emulsions with a finer grain when there is sufficient light. Type A Kodachrome has proved especially satisfactory in this respect.

Due to the peculiar demands of television filming, single-system sound is coming more into popular use. Not only does it permit rapid and inexpensive production of commercials, but it is especially adaptable in filming special news and sports events with dialogue or commentary so that they can be put on the air in the shortest possible time after the event has taken place.

Double-system sound-on-film is the "sawed" recording method used in the major studios and by the large stream commercial film producers. In this method, only the picture is exposed in the camera. The sound is recorded on a separate strip of film in a recorder driven by a motor synchronized by interlock with that of the camera. The recorder need not even be in the same area as the camera and indeed in professional production it is usually located in a sound track or

a central recording department in another building. The inter-locking motors insure perfect synchronization of picture and sound.

Double-system recording has great advantages in that the sound is recorded on film especially developed to give the finest sound rendition. Also, since the dialogue is on a separate strip of film, much greater leeway in editing is possible than with single-system recording. The disadvantages for the small producer with limited budget include a much greater film and processing cost, due to the fact picture and sound are recorded and processed separately. Also, the interval between time the film is shot and the time it is ready for projection is greatly increased. Not only is it necessary to edit two strips of film instead of one, but it is necessary to put the two films through another printing and developing process in order to obtain a composite sound print ready for projection. A budget drawback in the use of double-system sound is the high cost of sound film that is wasted on bad or discard takes. This is an expense which can develop into a major item on the production budget.

One of the newest developments in the field of sound recording, both for 35mm and 16mm, production is that of magnetic tape used in a double-system arrangement. Standard tapes are now produced in sizes of 17½mm (corresponding to split 35mm film), 16mm and the non-synchronous ¼-inch size popularly used on many home recorders. Because tape is relatively harder to "read," there are comparatively few editors who edit it directly. In most cases, only the good takes are "transferred" by re-recording optically on either 16mm or 35mm film which is then edited in the conventional manner along with the picture film.

The main advantage in favor of tape is the saving on film stock, due to the fact that only the good takes need be printed. There is little or no loss in quality in the transfer from tape to film. On the contrary, it is often possible to improve the quality by transferring the sound during the transfer process. When a satisfactory transfer has been made the tape may then be erased and used over again.

The re-recording or "dubbing" session actually produces the final sound track that will be used in printing the picture. At this time dialogue, narration, sound effects and music are all blended or "mixed" to produce a single track. There may be as many as six or eight separate tracks or channels used to produce the final result. Sound on film can be blended with disc or tape recordings or with direct work, such as the channels being monitored separately for proper balance. Recording studio rates are usually based

on the number of channels involved, or more often on the amount of time required to complete dubbing of the final track.

Background music for 16mm. commercial films presents its own special problems. Most American made disc recordings are not cleared for use on film, and the producer who hastily goes ahead and uses them invites suit for damages. Most recording studios have disc libraries of foreign-recorded music which is licensed for use on film, through payment of a royalty for each selection used. From time to time these companies supplement the existing library with new releases. There are also several organizations which provide original theme music recorded on film, and who will cut a special music track to closely suit the dramatic content of the film—or, if the budget allows, they will compose and record original scores especially for certain films. In both cases a per-need charge is made to the producer.

The importance of a good musical score cannot be overestimated, because music can do much to add extra punch and emotional quality to various sequences. Moreover, music tends to smooth out rough spots in the sound which are bound to occur on location filming. The best method for scoring a picture is, of course, the original score written directly for the picture and played by a full orchestra or a solo instrument such as the Hammond organ.

If this method is too expensive, as it often is, the next best method is the use of music tracks cut to fit the picture exactly. Through the use of A and B tracks, smooth transitions can be made from one theme to the other. The cheapest method is to use discs used to fade from one to the other as the narrator speaks. The success of this "radio" type of recording depends mainly upon the skill of the mixer and the man who changes the records. In any event, it is difficult to get such music to fit right on the visual cues used in the film. However, it is an inexpensive method and quite satisfactory for use with the simpler types of films.

Sound effects can be had in two ways: by recording actual sounds with a tape recorder and then transferring to film, or by dubbing off of sound effects records which are available on the market.

Probably the most important advice that can be given here for those undertaking for the first time the production of a 16mm. sound film, is to carefully figure all costs relative to the sound recording and printing phase of the production before submitting a figure to the client. With the usual, independent 16mm. producer, sound will usually exceed all other production costs. Now



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## MAJORING AT THE MOVIES

(Continued from Page 261)

a short pictorial prelude that gives a hint of the picture to come.

All motion pictures are shown on a flat screen, but the clever cameramen are those who try to make the audience forget that fact as soon as possible. Back- and side-lights give roundness to the performers and strong lights "scrapping" the set bring out its form and texture. But even without this lighting control you can easily duplicate professional use of foreground props and settings with several distinct planes.

Foreground props are those objects set much closer to the lens than anything else in the scene. They give a shot a third-dimensional quality and add variety to the film through the new compositions they make possible. One good example is the reading lamp that often frames a close-up of someone reading a book or letter. It is easily placed on the table where needed and serves a useful purpose in the shot. Other objects that have been used include flower vases, statues, trees, doorways, pianos, bedposts, sofas, or a coffee pot. For especially dramatic scenes, part of an actor such as his hand or shoulder can be placed in front of the camera as a foreground prop.

Settings with several distinct planes tend to emphasize the reality of your scenes. Usually, your set-ups will include walls, shrubbery, buildings, or machinery at several different distances from the camera without your thinking of it. But sometimes you may be faced with the problem of flat walls with nothing to relieve their monotony. Perhaps you're

taking shots of Cousin Emma and the children. They're standing beside the house, which is perfectly flat. You might try to find an angle that includes some of the garden, the street, or your neighbor's house. Action that continues in a flat setting for more than a few seconds becomes quite boring.

The quickest way to change a flat background into a "filmy" one is to move the camera so that the wall is viewed from an angle. It will be more to the side of the screen, large near the camera and diminishing in size as it recedes. A short-focus lens would heighten the effect. But if a flat setting is unavoidable, the photographer can still group his subjects to give an acceptable composition, placing someone rather close to the camera, with the others standing behind him at places decided upon by checking the scene through the finder.

The amateur filmer who wants to try some projects more ambitious than the usual home movies and travel films, might well find a wealth of ideas in the shorts series being shown theatrically. The "So You Want To Be A . . ." series, distributed by Warner Bros., has a format that can easily be adapted to small-scale filming. And you probably remember the Robert Benchley shorts in which Benchley finds himself plunged into greater confusion than ever as he explores some minute facet of our daily life.

Attempting real dramatic action is often discouraging for the neophyte producer, for he tries to be too serious or too

## Scheibe Filters Again Available

The famous Scheibe effect filters, known and used throughout the industry for their 34 years, are again available to cinematographers and the motion picture and television industries, according to the Scheibe Filters Company, 608 N. San Vicente Blvd., Hollywood 46, Calif.

The new company, headed by Charles K. Brown and Leslie C. Pearl, have taken over the business left by the late George Scheibe, who passed away last year, and will continue to furnish the special custom-made filters for which the name "Scheibe" has become world famous. Mr. Scheibe's widow will lend her assistance to the new firm as technical adviser. She had worked closely with her husband in all his filter de-

velopments and knows all his formulas.

The new organization will carry on much the same as did Mr. Scheibe, according to Mr. Brown, offering filters on special order rather than setting up production on a volume basis. For this, the new organization has added new precision instruments to ensure the highest technical quality in their product. Each filter will be individually tested before delivery.

Charles Brown was formerly with Bausch & Lomb Optical Company, in Rochester, N. Y., for 12 years as an optical engineer and has been associated with various phases of the motion picture business since 1922. Leslie Pearl, a former Rochester business man, has had wide experience in the optical field.

complicated in his first efforts. But the basic, harnessed ideas behind the shorts series mentioned are almost perfect for an entertaining amateur one-reeler. The "So You Want To Be A..." films depict a Mr. Joe McDoules as he tries one form of business or recreation after another—always to his eventual discomfort. One of your own films could show a friend demonstrating the correct methods of auto repairing, gardening, or salesmanship. True, the humor won't be of the super-sophisticated variety, but it should be strong enough to hold together some good practice work in cinematography.

The usual directions to newcomers at filming include plenty of warnings to include closeups. The beginner is reminded that closeups show the subject in great detail, unlike the medium shot he usually uses, and that audiences like the change in viewpoint that a closeup affords. But the extreme long shot is often overlooked, although its value is well known to professional filers.

Long shots, as used in amateur films, are frequently taken just because the photographer happened to be some distance from his subject at the time. The long shot usually stays in his film just as it was originally taken. A knowledge of some of the main functions of the L.S. can be a help to you in choosing your future set-ups.

The "geography" of a situation can be confused in a picture where much action takes place in tight medium shots and closeups. Then audiences may become uncertain as to the path of the action, the positions of the people involved, and the physical layout of the setting. Even if they don't realize this consciously, they become vaguely uneasy at not knowing "what's coming off here." An occasional long shot satisfies this curiosity and well clarifies the action. Furthermore, it offers an interesting change in the composition as to the closeups mentioned above.

Action which is seen from comparatively close angles for any length of time also gives the feeling of being in a cramped, tight space, no matter how large the setting actually is. The long shot, referred to as a "breather shot" in this situation by some editors, relieves this uncomfortable effect.

One tried-and-true way of introducing the audience to an important character is to let them discover that person in a long shot before the camera gets in. For example, suppose that you are making a film about a small child's first visit to the zoo. You could open with a long shot of the zoo without the child in view. Suddenly he tumbles into the scene, running towards one of the cages. His mother enters and takes him by the hand. The audience's interest has sud-

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deely been caught by this one figure in the long shot because of his distinctive action, and now the photographer can cut to a medium shot of the small boy in answer to an unconscious demand on the part of the audience to find out more about him.

Some film producers like to begin their feature films with titles that nicely set the mood of the story. An important example is the action juar preceding the credit titles in one of the "Topper" pictures. The camera roamed through a deserted, spooky mansion at night. No one was there. Finally the camera stopped before a closed door. No movement. Suddenly a knife whipped through the air and stuck in the door. Then the titles dissolved on with the knife and door in the background.

Amateur films have long used scenes behind their titles to give a hint of what is to come, but the use of some other material before the titles to symbolically suggest something of the picture is a new idea to most. This device could well be used at the start of a film about a vacation. The first shot is a long, slow pan of the filer's living room. It is cluttered with half a dozen suitcases and trunks in the process of being packed. The camera, panning by, reveals fragments of ties and

socks, dangling out of the closed cases, shirts piled up for which there is no room, and the variety of odds and ends that every vacationer thinks he must take along. The camera finally stops on one trunk onto which the man tells a fastener. Fade out. Fade in. And you're into the main part of your picture, having preluded it with a glimpse of what is to come to get ready for the trip.

Other varieties of these "prelude" titles almost suggest themselves. A film on river fishing could be preceded by a large closeup of a fishing fly being tied. The fly is set with some others against a dark background and then the titles dissolve in. Even the film record of a child's birthday party could use this type of title. You open the film with a scene of the party table just after it has been set. It's neat and clean. The titles appear — perhaps in the form of closeups of place cards at each place. Fade out and fade into the party picture itself. At the finish, the end title is superimposed over the party table, which is in shambles by this time. The contrast between the opening and closing title backgrounds tells its own story.

Yes, by practicing a little careful observation of professional films, your local movie theatre can become your own graduate school of cinematography.

## DOLLY FOR FILMING FOOTBALL

(Continued from Page 141)

than is usually seen in pictures with a football theme. When David Miller was given the directorial assignment for this picture, his first request was for Lee Garneau, as director of photography, and Garneau's well known crew of technicians headed by gnp Ralph Hoge. Granted his wish, Miller called Garneau and Hoge into conference and presented his case. The need was to secure dynamic and dramatic gridiron action scenes in order to underscore the playing of John Derek which motivates the story. Hoge, whose reputation for inventing time-saving gnp equipment is well known throughout the industry, applied some of his war-borne knowledge to the problem and came up with the shock-rope dolly idea. He also suggested use of a motorcycle with sidecar, or a light automobile. So before undertaking construction of the special dolly, both the motorcycle and automobile were tested on the playing field of a local stadium. The motorcycle provided the quick starts necessary but ran up the turf on starts and turns, causing stadium officials to veto it. The automobile was found to be too slow in getting started, which automatically eliminated it.

Columbia Pictures' engineering department then built the dolly according to Hoge's specifications and provided the hundred-yard lengths of half-inch elastic rope to power it. The dolly was tried out at Pomona Race Bowl and preliminary tests indicated it would meet all requirements.

The dolly is patterned after the conventional low-slung studio dolly, with steering for one set of wheels. The tubular metal framework supports a circular collar, adjustable for different heights which aids the camera operator in holding a steady stance with the camera as the dolly moves over the ground. Wheels are the usual ball-bearing type fitted with pneumatic rubber tires. The elastic ropes are securely attached to front of the dolly frame.

Once the dolly is released, it attains peak speed within two feet. Its rate of travel depends upon how tight the elastic ropes are drawn. Several tests enabled Hoge's crew to determine the degree of tension necessary to pull the dolly along at speed of the average player running on the field.

In actual use, the dolly was made to

THE DOLLY described here is only one of many outstanding grip equipment contributions by Ralph Hoge who, besides serving as key grip on dozens of photography "Garnet" crew whenever he's shooting, also heads up the Thomas Hoenes organization in Hollywood which supplies studios with such important items as camera gear beds, electric parallels, with motor driven elevators that carry cameras, cranes and lights to heights of twenty feet, hydraulic camera tripods, and hydraulic telescoping lamp stands—all of his own design and manufacture. Most of these ideas he got while parachuting from planes behind Japanese lines in China in the last war. Having to hide out during the daytime and working mostly at night, he got in the habit of using daylight hours to make sketches of these pieces of studio equipment he thought might prove helpful, once he got back to Hollywood. The shock rope idea is only one of these which he drew upon generously when Miller tested the unusual filming demands of "The Hero" in his lap.

Hoge will tell you that he never had time for inventing before he went to China. The pace at the studio doesn't allow for dreaming up ideas not sketching plans, which is one of the reasons, Hoge thinks, that studios are not more progressive in developing better equipment. "The industry doesn't give its technicians time to sit down and invent new tools," Hoge says, "and fails to encourage the vast inventive potential within it."

Incidentally, Hoge recently returned from Washington, D.C., where he filed a patent on a new and startling device for motion picture production soon to be announced. The device is said to be a reinforcement. Hoge filed the application personally to insure its security.

travel on an irregular path so the camera could follow or precede actor Derek running with the ball. To accomplish this, the dolly, once set in starting position, was firmly anchored and the elastic rope stretched down the field; but instead of stretching it in a straight line, two and often three abrupt turns were provided so the dolly would follow the irregular travel of a player down the field with the opposing team in pursuit. This was accomplished by spiking the rope, say at a distance of twenty-five feet, then drawing it sharply to one side, stretching it tightly, then spiking it again at another point, then pulling it at another angle and finally anchoring it in the turf with a long steel pin. The pins were provided with a quick release loop at the top, through which the rope passed.

Thus, as the dolly, released from its

starting point, approached the first turn a grip would quickly open release on the first pin, forcing the rope which then pulled the dolly in a new direction. Sharp turns were avoided by a grip riding the dolly and steering it as the turns were met. This procedure was followed for the entire length of dolly travel.

In the first trials, no brake was provided for the dolly. This presented a dangerous hazard in that should a player slip and fall in front of the dolly as it travelled toward him, he would unquestionably be seriously hurt if not killed. So mechanical brakes were installed and for an added safety factor, steel bars were fixed to protrude from either side so that grips running alongside the dolly could grasp them and slow its advance in case of emergency, or decelerate its speed to conform with action being filmed.

The dolly made it possible for director Miller to shoot real football scrimmages instead of faked playing so often staged for film productions, and to bring such action vividly to the screen. In all, four complete teams were on hand to furnish the necessary players to supply replacements, as in a regular game. Except for special action occasionally staged close up, all playing was along standard collegiate lines with team captains planning and executing plays the same as they would in a Saturday afternoon conference game.

Admittedly the task of camera operator Ken Carson riding the dolly and handling the Cunningham camera was no easy one. The hand held camera permitted greater maneuverability than if it had been mounted on a tripod, and enabled following the quick shifts of players with complete freedom. On the screen, scenes appear to have been filmed with a camera traveling just ahead of the players—which is just what happened. Similar action, photographed from a distance with telephoto lenses cannot compare with scenes filmed for "The Hero" from the dolly. They lack perspective and are devoid of the intimacy gained by the on-the-spot dolly-mounted camera and lenses of shorter focal length.

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## MISCELLANEOUS

### BACK ISSUES

of *The American Cinematographer* are available for most months of 1950 and 1951. Many articles also available. All contain valuable technical articles and information relative to contemporary motion picture photography. The December issue contains an annual index as a guide to content of each year's 12 issues. Price of back issues: in U.S. \$4. For foreign, \$6.

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## BULLETIN BOARD

(Continued from Page 38)

in equipment and techniques for the production, processing, and preservation of motion picture and television material is represented in the 52 scheduled papers and reports.

Subjects covered by technical papers listed in the tentative program include sound and projection, theater television, optical and magnetic sound recording, motion picture photography, color film processing, various methods and applications of high-speed photography, television studio equipment and lighting, and various aspects of television film transcription and production of films for television.

**Clarence V. Garrell**, cameraman for major Hollywood studios from 1936-43 and one of the U.S. Army's top combat photographers during World War II, recently arrived in Germany from Vienna to assume duties of civilian information and editorial specialist with American forces in northern Hesse.

Garrell was personal cameraman for the late Gen. George S. Patton Jr. in England and accompanied five divisions through major campaigns where he filmed some of the top camera shots of the war. He photographed the liberation of Paris, St. Malo, Aachen, Durn, Cologne and Berlin, once recording on film a tank battle that took place one mile behind German lines. Garrell also photographed the first American crossing of the Rhine River and was present when the American and Russian Armies met in Berlin.

**Experimental films and film making** will be the subject of a new course, *New Frontiers in the Cinema*, to be given this fall by New York University's adult unit, the Division of General Education, in collaboration with Cinema 16, the film society devoted to screening of documentary and experimental motion pictures.

Classes will meet in fifteen bi-weekly sessions on alternate Monday evenings at the University's Washington Square Center, beginning October 30 and continuing to May 28, 1951.

Coordinator of the series will be Dr. George Arberg, lecturer on arts at the University and theatre consultant at the Museum of Modern Art. The program of films, many of them obtained from private collections, has been developed by Dr. Arberg and Arnon Vogel, executive secretary of Cinema 16.



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# Current Assignments of A.S.C. Members



Major film producers to which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

## Columbia

- **LEE GARMES**, "The Hero," (Society Buchman Enterprises) with John Derek and Aldo Da Re. David Miller, director.
- **CHARLES LINTON**, "The Renaissance Age," with Margaret O'Brien, Allen Martin, Jerry Hays, Marya Maflon and Lloyd Corrigan. Seymour Friedman, director.
- **HENRY FORD**, "Four Savage Riders," with Charles Starrett, Smokey Starrett, Fritz Thompson and Trevor Bardette. Ray Nazario, director.
- **LESTER WHITE**, "Garden of Allah," with Society Buchan, Jimmy Lydon, Jacka Amador, Don Budge and Dick Wessel. Edward Brendt, director.

## Eagle-Lion

- **ELMER DIER**, "Kismet Patrol," (Jack Schwartz Prod.) with Richard Emory, Maxine Fong, Tami Dora and Al Egan. Mike Newick, director.

## M-G-M

- **ROBERT FLAHERTY**, "Royal Wedding," (Technicolor) with Fred Astaire, Jane Powell, Fritz Lawford, Sarah Churchill and Keweenaw Wynn. Stanley Donen, director.
- **ROBERT BARTHELEMY** and **WILLIAM SEREL**, "Que Vida," (Shooting in Italy) with Robert Taylor, Deborah Kerr. Mervyn LeRoy, director.
- **GEORGE FOLLEY**, "Mr. Imperium," (Technicolor) with Jane Turner, Russ Potts, Marjorie Main, Sir Cedric Hardwicke and Nina Komand. Don Hartman, director.
- **WILLIAM MILLER**, "Across The Wide Missouri," (Technicolor) with Clark Gable, Marie Elena Margare, John Hodiak, Ricardo Montalban, James Whitmore, Adolphe Menjou, J. Carroll Nash, Jack Holt and Doug Fowley. William Wyler, director.
- **ALFRED GRAY**, "American in Paris," (Technicolor) with Gene Kelly, Leslie Caron, George Gurney, Nina Foch and Oscar Levant. Vincente Minnelli, director.
- **HUI ROMER**, "Red Badge of Courage," with Audie Murphy, Bill Mauldin, Royal Dena, Douglas Dill and Arthur Rosenberg. John Huston, director.
- **JAMES HUTTENBERG**, "The Great Caravan," with Maria Leona, Ann Byrd, Dorothy Kirtland, Jennifer Novotna, Blanche Thebom, Teresa Crill, Ludwig Donath, Carl Brenner Reid and Nancy Paris. Richard Thorpe, director.
- **RAY JUNE**, "Inside Struggle," with David Brian, Andrew Duhl, Barry Sullivan, Mercedes McCannick, Paula Raymond, Lon Chaney and Monica Lewis. Gerald Mayer, director.
- **PAUL C. VONN**, "Go For Broke," with Van Johnson, Warner Anderson and Richard Anderson. Robert Powell, director.

## Monogram

- **MARCEL LIPSTADT**, "The Witness," with Joe Kirkwood, James Gleason, Robert Coogan and Myrna Dell. Raphael LeBarq, director.
- **GIL WARREN**, "Blue Blood," with Bill Williams, Jane Nigh and Audrey Long. Len Lenders, director.
- **WILLIAM SCHENK**, "Fangs Of The North," with Kathy Green, Chasick, Lynn Roberts, Ann O'Connell and Tom Neal. Frank McDonald, director.
- **ELMER NUTTMAN**, "Cavalry Squad," with Rod Cameron, Audrey Long, Lesley Schlande, director.
- **KARL STROHM**, "Father's Wild Game," with Raymond Walburn, Gary Gray, Barbara Brown, M'Lee McClure, and Fred Libby. Herbert J. Lewis, director.

## Paramount

- **CHARLES LANG**, "Ace In The Hole," with Kirk Douglas, Jan Sterling, Porter Hall, and Richard Widmark. Billy Wilder, director.
- **RAY BENJAMIN**, "Wagonth," (Technicolor) (Not Yet Prod.) with Edmund O'Brien, Dean Jagger, Fowley Tucker and Harry Carey, Jr. Byron Haskin, director.
- **GEORGE BARBER**, "Carson," with Laurence Olivier, Jennifer Jones, Eddie Albert, Ruth Watten, Raul Kuyalad and Mary Murphy. William Wyler, director.

## R.K.O.

- **EDWARD CROUCH**, "Best Of The Badmen," (Technicolor) with Robert Ryan, Claude Truitt, Jack Baum, Robert Preston and Walter Brennan. Wm. Russell, director.
- **GEORGE DUKAKIS**, "The Great Women," with Dana Andrews, Claude Rains, Carla Balada, Philip Duro and Eric Felday. Alfred Werker, director.
- **HARRY WARD**, "Mickey," with Robert Mitchum, Jane Russell, William Bendit, and Thomas Gomez. Joel von Sternberg, director.

## 20th Century-Fox

- **WALTER HUCK**, "Bird of Paradise," (Technicolor) with Louis Jordan, Debra Paget, Jeff Chandler, Everett Ruess, Delmar Daves, director.
- **LUCIEN BALLAR**, "Honey On Telegraph Hill," with Valentina Cortese, William Lundgren, Richard Barthelme and Fay Bainter. Robert Wise, director.
- **HARRY JACKSON**, "Wild Winds," (Technicolor) with John Lund and Jean Peters. Louis King, director.
- **JOSEPH LASHLELL**, "The Scarlet Pimpernel," with Linda Darnell, Charles Boyer, Francine Kelly, Constance Smith, Michael Rennie and Judith Evelyn. Otto Preminger, director.
- **JACK GREENGLASS**, "The Sound of Music Comes," (E & A. Albertson Prod.) (Technicolor) with George Maguire, Paula Corday, Barry Kramer, Lilian Bruns and Aqueduct. Minner Garaghy, director.
- **LEON SHABAN**, "On The Runway," (Technicolor) with Danny Kaye, Gene Tierney, Corinne Calvet, Marcel Dalio, and Ann Code. Walter Lang, director.
- **FRANK FLAHERTY**, "Legend Of The Damned," (Shooting in Germany) with Gary Merrill, Richard Boone and Oscar Werner. Arnold Laury, director.
- **LEO TOWNE**, "Follow The Sun," with Glenn Ford, Anne Baxter, Debbie O'Neil, and June Haver. Sidney Lanfield, director.

## United Artists

- **GUY BEE**, "Queen For A Day," (Robert Strauss Prod.) with Phyllis Avery, Doreen McGuire, Rudy Lee, Adam Williams, Tracy Roberts. Arthur Lubin, director.

## Universal-International

- **CLIFFORD SMITH**, "Mystery Submarine," with Macdonald Carey, Maria Terna, Robert Douglas and Ludwig Donath. Douglas Sirk, director.
- **CHARLES BOYLE**, "Apache Drums," (Technicolor) with Stephen McNally, Colleen Gray, Willard Parker and Arthur Maude. Hugo Freese, director.
- **WILLIAM DUNN**, "Light On," with Arthur Kennedy, Peggy Dow, James Edwards and Rock Hudson. Mark Robson, director.
- **MAURICE CHESTNUT**, "Prisoner Of Y," with Mark Stevens, Robert Douglas, Noel, Gig Young and Johnny Sands. L. Shawman, director.
- **CARL GUSTAV**, "Brethren For Deeds," (Technicolor) with Stephen McNally, Walter Slo, Robert Hayes, and Lucille Barkley. Fernand St. Jean, director.
- **IRVING CLAWSON**, "The Prince Who Was A Thief," (Technicolor) with Tony Curtis, Piper Laurie, Jeff Caw and Peggie Castle. Rube Mose, director.

## Warner Brothers

- **ROBERT BERRY**, "The Enforcer," (Dolby Stereo Picture) with Humphrey Bogart, Roy Roberts, Ted De Corsia and Bob Steele. Ruggie Wyden, director.
- **LEWIS LITTON**, "Only The Valiant," (Cinema Prod.) with Gregory Peck, Jeff Caw, Ward Bond, Terry Kirby, Lon Chaney, Jr. Gordon Douglas, director.
- **HARRY STRAUSS**, "Remember Named Desire," (Chas K. Friedman Group Prod.) with Vivien Leigh, Marlon Brando, Kim Hunter in Korea, director.
- **ERNEST BLAGAL**, "Just Thawp, All-American," with Earl Lancaster, Charles Eckford, Philip Thorne, Steve Cochran, Michael Carlin, director.
- **WILLIAM CLARK**, "Lullaby Of Broadway," with Doree Day, Gene Nelson, Billy de Wolfe, S. E. Sallal and Ann Thelma David Baker, director.
- **THE McCRAE**, "Goodbye My Fancy," with Joan Crawford, Frank Langford, Eric Astor, and Virginia Gibson. Vincent Sherman, director.

## Kodak Color Handbook

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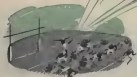
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